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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,662	07/26/2006	Gerhard Kottschlag	10191/4355	8299

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EXAMINER	
POOS, JOHN W	
ART UNIT	PAPER NUMBER
2816	
MAIL DATE	DELIVERY MODE
08/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,662	KOTTSCHLAG, GERHARD	
	Examiner	Art Unit	
	JOHN W. POOS	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9,12,14 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9,12,14 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment has been received and entered in the case. In view of the amendments included therein, the previous rejections based on claims 9 and 14 have now been withdrawn. In view of newly discovered prior art, however, new rejections are now set forth. Any inconvenience caused by the delay in citing this new prior art is regretted.

Claim Objections

2. Claims 12 and 14 are objected to because of the following informalities: The third limitation of each of these claims which begins with "at each of the varactor diodes, a control voltage supplied..." there is what appears to a spelling in the last line of these limitations where the claimed "...***varacter***..." should read ***varactor***. Appropriate correction is required.

3. Applicant is advised that should claims 9 and 12 be found allowable, claims 14 and 15 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 9, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al. (US 4,536,724), in view Hamparian et al. (US 5,990,761).

In regard to Claims 12 and 14:

Hasegawa (724) teaches, in Figure 4, at least three varactor diodes that are in each case connected in series alternatingly opposite to one another (31-34); and

at least one of a resistor network and an inductor network, the at least one of the resistor network and the inductor network coupled to the at least three varactor diodes (Inductors coupled to 31-34);

wherein: at each of the varactor diodes, a control voltage supplied to the circuit for adjusting capacitance is applied at least approximately at full extent (Ground connection connected to the inductors),

the at least three varactor diodes include one of an even number of varactor diodes or an even number of parallel connections of varactor diodes (there are 4 varactor diodes in 31-34, therefore an even number of varactor diodes);

at each node of the series connection, respectively either anodes of the varactor diodes or cathodes of the varactor diodes are connected to one another (the cathodes of 31 and 32 and 33

and 34 are respectively connected to each other, while the anodes of 32 and 33 are connected together);

nodes of the cathodes lying between outside terminals are connected via at least one of resistors and inductors to the cathodes of the varactor diodes whose cathodes form a first outside terminal and a second outside terminal of the alternative circuit (the cathodes of 31 and 32 and 33 and 34 are connected to an input through the inductors); and

nodes of the anodes lying between the outside terminals being connected to one of resistors or inductors whose second terminals form the control voltage terminal for supplying the control voltage to set the capacitance (control voltage gnd connected to anodes of 31, 32 and 33, and 34 through the inductors),

but does not teach an alternating voltage that is applied at the series connection of the varactor diodes, which is at a higher frequency compared to the control voltage, is distributed at least approximately uniformly to the varactor diodes.

Hamparain (761) teaches, in Figure 5, an alternating voltage that is applied at the series connection of the varactor diodes, which is at a higher frequency compared to the control voltage, is distributed at least approximately uniformly to the varactor diodes. (Vs, where the control voltage taught by Hasegawa (724) is a ground voltage, therefore Vs is higher than ground)

It would have been obvious to one skilled in the art at the time the invention was made to use the alternating control voltage taught by Hamparain (761), with the varactor diode circuit taught by Hasegawa (724), in order to allow for independent adjustment of the capacitive reactance associated with each diode set (Hamparin Column 3: lines 50-52).

In regard to Claims 9 and 15:

All of the claim limitations have been discussed with respect to Claims 12 and 14 respectively above, except for wherein the at least one of the resistor network and the inductor network is arranged so that anodes of the varactor diodes, with respect to the control voltage supplied to the circuit, are connected to a first electrical potential, and cathodes of the varactor diodes, with respect to the control voltage, are connected to a second electrical potential that is higher, by the control voltage, compared to the first electrical potential.

Hasegawa (724) further teaches, in Figure 4, wherein the at least one of the resistor network and the inductor network is arranged so that anodes of the varactor diodes, with respect to the control voltage supplied to the circuit, are connected to a first electrical potential (anodes of 31-34 are connected to ground through the inductors), and cathodes of the varactor diodes, with respect to the control voltage, are connected to a second electrical potential that is higher, by the control voltage, compared to the first electrical potential (the cathodes of 31-34 are connected to a control voltage node 50 (see Figure 5), where the control voltage is a DC bias voltage which is offset and higher than ground).

Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN W. POOS whose telephone number is (571)270-5077. The examiner can normally be reached on M-F (alternating Fridays off), E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan, can be reached at 571-272-1988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth B. Wells/
Primary Examiner
Art Unit 2816

/J. W. P./
Examiner, Art Unit 2816